

Appendix A

Preliminary CHART Assessment for the California Coastal (CC) Chinook ESU

ESU Description

The CC chinook ESU was listed as a threatened species in 1999 (64 FR 50394). The ESU includes all naturally spawned populations of chinook salmon from rivers and streams south of the Klamath River to and including the Russian River. Following completion of an updated status review (NMFS 2003a) and review of hatchery populations located within the range of the ESU (NMFS 2003b), NMFS recently proposed that the ESU remain listed as a threatened species and that seven hatchery populations be included as part of the ESU (69 FR 33102; June 14, 2004). Major watersheds occupied by naturally spawning fish in this ESU include Redwood Creek, Mad River, Eel River, several smaller coastal watersheds, and the Russian River. A Technical Recovery Team has been formed and is in the process of identifying the historical and extant population structure of this ESU; however, this work has not been completed.

CHART Area Assessments

The CHART assessment for the CC chinook ESU addressed 45 occupied CALWATER Hydrologic Subareas (HSAs) organized or nested in 8 CALWATER Hydrologic Units (HUs) or subbasins (Figures A1 and A2). The CALWATER HSAs were chosen as freshwater critical habitat units because they present a convenient and systematic way to organize the CHART's watershed assessments for this ESU. In addition to the 45 HSA watershed units, conservation assessments were also made for Humboldt Bay and the Eel River Estuary. Information presented below for individual HUs (size, counties, total stream miles, occupied stream miles, and habitat use) were generated from GIS data sets compiled by NMFS Southwest Region (NMFS 2004a)

Unit 1. Redwood Creek Subbasin (HU 1107)

The Redwood Creek HU is located in the northern portion of the ESU and includes the Redwood Creek drainage. The HU encompasses approximately 294 mi² and occurs completely within Humboldt County. The HU contains 3 HSAs, all of which are occupied, and 343 stream miles (at 1:100,000 hydrography). Fish distribution and habitat use data compiled by NMFS biologists identify approximately 107 miles of occupied

riverine and estuarine habitat in the occupied HSAs (NMFS, 2004a). The CHART concluded that these occupied riverine and estuarine areas contained one or more PCEs (i.e. spawning, rearing, or migratory habitat) and identified several management activities that may affect the PCEs. Table A1 summarizes the total miles of occupied riverine/estuarine habitat for each HSA watershed that contains spawning/rearing, rearing/migration, or migration PCEs, as well as management activities that may affect the PCEs in each HSA. Map A1 depicts the specific areas in this HU that are occupied by the ESU and under consideration for the critical habitat designation. The team did not identify any unoccupied habitat in this subbasin that may be essential for the conservation of the ESU.

Unit 2. Trinidad Subbasin (HU 1108)

The Trinidad HU is located in the northern portion of the ESU and includes Big Lagoon and Little River. The HU encompasses approximately 131 mi² and occurs completely within Humboldt County. This HU contains 2 HSAs, both of which are occupied, and 161 stream miles (at 1:100,000 hydrography). Fish distribution and habitat use data compiled by NMFS biologists identify approximately 26 miles of occupied riverine/estuarine habitat in the 2 occupied HSAs (NMFS, 2004a). The CHART concluded that these occupied areas contained one or more PCEs (i.e. spawning, rearing, or migratory habitat) and identified management activities that may affect the PCEs. Table A1 summarizes the total miles of occupied riverine and/or estuarine habitat identified for each HSA watershed that contains spawning/rearing, rearing/migration, or migration PCEs, as well as management activities that may affect the PCEs in each HSA. Map A2 depicts the specific areas in this HU that are occupied by the ESU and under consideration for the critical habitat designation. The team did not identify any unoccupied habitat in this subbasin that may be essential for the conservation of the ESU.

Unit 3. Mad River Subbasin (HU 1109)

The Mad River HU is located in the northern portion of the ESU and includes the Mad River drainage. The HU encompasses approximately 499 mi² and occurs in portions of Humboldt and Trinity Counties. This HU contains 4 HSAs, 3 of which are occupied, and a total of 661 miles of streams (at 1:100,000 hydrography). Fish distribution and habitat use data compiled by NMFS biologists identify approximately 53 miles of occupied riverine/estuarine habitat in the 3 occupied HSAs (NMFS, 2004a). The CHART concluded that these occupied areas contained one or more PCEs (i.e. spawning, rearing, or migratory habitat) and identified management activities that may affect the PCEs.

Table A1 summarizes the total miles of occupied riverine and/or estuarine habitat identified for each HSA watershed that contain spawning/rearing, rearing/migration, or migration PCEs, as well as management activities that may affect the PCEs in each HSA. Map A3 depicts the specific areas in this HU that are occupied by the ESU and under consideration for the critical habitat designation. The team did not identify any unoccupied habitat in this subbasin that may be essential for the conservation of the ESU.

Unit 4. Eureka Plain Subbasin (HU 1110)

The Eureka Plain HU is located in the vicinity of Eureka and surrounds Humboldt Bay. The HU encompasses approximately 224 mi² and occurs completely within Humboldt County. This HU contains a single HSA which is occupied and a total of 269 miles of streams (at 1:100,000 hydrography). Fish distribution and habitat use data compiled by NMFS biologists identify approximately 74 miles of occupied riverine and/or estuarine habitat in the occupied HSA (NMFS, 2004a). The CHART concluded that these occupied areas contained one or more PCEs (i.e. spawning, rearing, or migratory habitat) for this ESU and identified management activities that may affect the PCEs. The CHART also evaluated Humboldt Bay into which most of the freshwater stream in this subbasin drain as a separate habitat unit. Humboldt Bay contains approximately 25 mi² of estuarine habitat which the CHART found contained PCEs for rearing and migration and was of high conservation value. Table A1 summarizes the total miles of occupied riverine and/or estuarine habitat in the HSA that contain spawning/rearing, rearing/migration, or migration PCEs, as well as management activities that may affect the PCEs in each HSA. Map A4 depicts the specific areas in this HU that are occupied by the ESU and under consideration for the critical habitat designation. The team did not identify any unoccupied habitat in this subbasin that may be essential for the conservation of the ESU.

Unit 5. Eel River Subbasin HU (1111)

The Eel River HU is located in north central portion of the ESU and includes the Eel River and Van Duzen River drainages. The HU encompasses approximately 3,682 mi² and occurs in portions of several counties including: Humboldt, Trinity, Mendocino, Lake, Glenn, Colusa, and Tehama. This HU, which is the largest in this ESU, contains 19 occupied HSAs and 5,194 miles of streams (at 1:100,000 hydrography). Fish distribution and habitat use data compiled by NMFS biologists identify approximately 841 miles of occupied riverine and/or estuarine habitat in the occupied HSAs (NMFS, 2004a). The CHART concluded that these occupied areas contained one or more PCEs

(i.e. spawning, rearing, or migratory habitat) for this ESU and identified management activities that may affect the PCEs. Table A1 summarizes the total miles of occupied riverine and/or estuarine habitat identified for each HSA watershed that contain spawning/rearing, rearing/migration, or migration PCEs, as well as management activities that may affect the PCEs in each HSA. Map A5 depicts the specific areas in this HU that are occupied by the ESU and under consideration for the critical habitat designation. The team did not identify any unoccupied habitat in this subbasin that may be essential for the conservation of the ESU.

Unit 6. Cape Mendocino Subbasin (HU 1112)

The Cape Mendocino HU is located in the central portion of the ESU and includes the Bear River and Mattole River drainages. This HU encompasses approximately 499 mi² and occurs almost entirely in Humboldt County. This HU contains 3 HSAs, 2 of which are occupied, and 654 miles of streams (at 1:100,000 hydrography). Fish distribution and habitat use data compiled by NMFS biologists identify approximately 173 miles of occupied riverine and/or estuarine habitat in the 2 occupied HSAs (NMFS, 2004a). The CHART concluded that these occupied areas contained one or more PCEs (i.e. spawning, rearing, or migratory habitat) for this ESU and identified management activities that may affect the PCEs. Table A1 summarizes the total miles of occupied riverine and/or estuarine habitat identified for each HSA watershed that contain spawning/rearing, rearing/migration, or migration PCEs, as well as management activities that may affect the PCEs in each HSA. Map A6 depicts the specific areas in this HU that are occupied by the ESU and under consideration for the critical habitat designation. The team did not identify any unoccupied habitat in this subbasin that may be essential for the conservation of the ESU.

Unit 7. Mendocino Coast Subbasin (HU 1112)

The Mendocino HU is located in the southern portion of the ESU in portions of Humboldt and Mendocino Counties and includes several smaller streams including the Ten Mile, Noyo, Albion, Navarro, and Garcia Rivers. This HU which encompasses approximately 1,598 mi² contains 18 HSAs, 7 of which are occupied, and 2,103 miles of streams (at 1:100,000 hydrography). Fish distribution and habitat use data compiled by NMFS biologists identify approximately 204 miles of occupied riverine and/or estuarine habitat in the 7 occupied HSAs (NMFS, 2004a). The CHART concluded that these occupied areas contained one or more PCEs (i.e. spawning, rearing, or migratory habitat) for this ESU and identified management activities that may affect the PCEs. Table A1

summarizes the total miles of occupied riverine and estuarine habitat identified for each HSA watershed that contain spawning/rearing, rearing/migration, or migration PCEs, as well as management activities that may affect the PCEs in each HSA. Map A7 depicts the specific areas in this HU that are occupied by the ESU and under consideration for the critical habitat designation. The team did not identify any unoccupied habitat in this subbasin that may be essential for the conservation of the ESU.

Unit 8. Russian River Subbasin (HU 1114)

The Russian River HU is located in Mendocino and Sonoma Counties in the southernmost portion of the ESU and includes the Russian River drainage and its tributaries. The HU encompasses approximately 1,482 mi² and 1,872 miles of streams (at 1:100,000 hydrography). The HU contains 11 HSAs with 10 in the range of the ESU, and 9 of which are occupied. Fish distribution and habitat use data compiled by NMFS biologists identify approximately 133 miles of occupied riverine/estuarine habitat in the 9 occupied HSAs (NMFS, 2004a). The CHART concluded these occupied areas contained one or more PCEs (i.e. spawning, rearing, or migratory habitat) for this ESU and identified management activities that may affect the PCEs. Table A1 summarizes the total miles of occupied riverine and estuarine habitat identified for each HSA watershed that contain spawning/rearing, rearing/migration, or migration PCEs, as well as management activities that may affect the PCEs in each HSA. Map A8 depicts the specific areas in this HU that are occupied by the ESU and under consideration for critical habitat designation. The team did not identify any unoccupied habitat in this subbasin that may be essential for the conservation of the ESU.

CHART Preliminary Conservation Value Rating

Freshwater/Estuarine Areas

After reviewing the best available scientific data regarding the distribution and habitat use for the CC chinook ESU, the CHART concluded that most of the occupied HSAs were of high or medium conservation value to the ESU. Of the 45 occupied HSAs that were evaluated, 27 were rated as having high conservation value, 10 were rated as having medium conservation value, and 8 were rated as having low conservation value. In addition, Humboldt Bay and the Eel River Estuary were also rated as having a high conservation value. Table A2 summarizes the CHART's PCE/watershed scores and preliminary conservation value ratings of low, medium or high. Figure A9 depicts the spatial distribution of conservation ratings for the occupied HSAs within the ESU.

Marine Areas

NMFS determined that marine areas did not warrant consideration as critical habitat for this ESU.

References and Sources of Information

NMFS, 2004a. GIS and Associated Data Related to Critical Habitat Designations for Seven ESUs of Salmon and *O. mykiss* in California. Compiled by NMFS, Southwest Region.

NMFS 2003a. Updated Status of Federally Listed ESUs of West Coast Salmon and Steelhead. West Coast Salmon Biological Review Team; Northwest Fisheries Science Center and Southwest Fisheries Science Center. July 2003.

NMFS 2003b. Hatchery Broodstock Summaries and Assessments for Chum, Coho, and Chinook Salmon and Steelhead Stocks within ESUs listed under the ESA. Salmon and Steelhead Hatchery Assessment Group/NMFS; Northwest Fisheries Science Center and Southwest Fisheries Science Center

Federal Register Notices

64 FR 50394 - California Coastal Chinook listing determination

69 FR 33102 - Proposed Listing Determinations for 27 West Coast Salmon and Steelhead ESUs

Table A1. Summary of Occupied Subbasins/Watersheds, PCE's, and Management Activities Affecting PCE's for the California Coastal Chinook ESU

| Map Code | Basin | Watershed | HSA Unit | Spawning/Rearing PCEs (mi)** | Rearing/Migration PCEs (mi)** | Presence/Migration Only PCEs (mi)** | Management Activities*** |
|----------|-----------------|--------------------------------|----------|------------------------------|-------------------------------|-------------------------------------|--------------------------|
| | Redwood Creek | Orick | 110710 | 59 | 59 | 59 | FR, FC, GM, WI, GR |
| | Redwood Creek | Beaver | 110720 | 31 | 31 | 31 | FR |
| | Redwood Creek | Lake Prairie | 110730 | 17 | 17 | 17 | FR, WI |
| | Trinidad | Big Lagoon | 110810 | 9 | 9 | 9 | FR, NW |
| | Trinidad | Little River-Albion_Big Salmon | 110820 | 17 | 17 | 17 | FR, AG, GR, WI, NW |
| | Mad River | Blue Lake | 110910 | 21 | 21 | 21 | |
| | Mad River | North Fork Mad River | 110920 | 3 | 3 | 3 | FR, AG, GR, WI |
| | Mad River | Butler Valley | 110930 | 29 | 29 | 29 | FR, AG, GR, SC |
| | Mad River | Ruth | 110940 | | | | |
| | Eureka Plain | Eureka Plain | 111000 | 74 | 74 | 74 | UR, FC, RB, TR |
| | Eel River | Ferndale | 111111 | 47 | 47 | 47 | AG, FC, GM |
| | Eel River | Scotia | 111112 | 28 | 28 | 28 | GM, FR, ES |
| | Eel River | Larabee Creek | 111113 | 9 | 9 | 9 | AG, FR, WI |
| | Eel River | Hydesville | 111121 | 20 | 20 | 20 | FR, GM, ES, WI |
| | Eel River | Bridgeville | 111122 | 27 | 27 | 27 | FR, ES |
| | Eel River | Yager Creke | 111123 | 23 | 23 | 23 | FR, AG, GR, ES |
| | Eel River | Weott | 111131 | 48 | 48 | 48 | FR, ES, WI |
| | Eel River | Benbow | 111132 | 182 | 182 | 182 | FR, UR, ES, WI |
| | Eel River | Laytonville | 111133 | 60 | 60 | 60 | FR, UR, ES, NW |
| | Eel River | Sequoia | 111141 | 54 | 54 | 54 | FR, UR, NH |
| | Eel River | Spy Rock | 111142 | 69 | 69 | 69 | AG, FR, ES, NH |
| | Eel River | North Fork Eel River | 111150 | 4 | 4 | 4 | AG, GR, WI, ES, PO |
| | Eel River | Outlet Creek | 111161 | 56 | 45 | 45 | UR, FR, WI, NW |
| | Eel River | Tomki Creek | 111162 | 76 | 76 | 76 | FR, WI, NW |
| | Eel River | Lake Pillsbury | 111163 | 12 | 12 | 12 | ES, NH, NW |
| | Eel River | Eden Valley | 111171 | 40 | 36 | 36 | FR, GR, WI |
| | Eel River | Round Valley | 111172 | 31 | 33 | 33 | AG, FR, WI |
| | Eel River | Black Butte River | 111173 | 24 | 24 | 24 | FR, GR, WI |
| | Eel River | Wilderness | 111174 | 7 | 7 | 7 | FR, PO |
| | Cape Mendocino | Oil Creek | 111210 | | | | |
| | Cape Mendocino | Capetown | 111220 | 30 | 30 | 30 | AG, GR, FR, WI |
| | Cape Mendocino | Mattole River | 111230 | 143 | 143 | 121 | FR, AG, GR, WI |
| | Mendocino Coast | Usal Creek | 111311 | | | | |
| | Mendocino Coast | Wages Creek | 111312 | 5 | 5 | 5 | FR |
| | Mendocino Coast | Ten Mile River | 111313 | 49 | 49 | 49 | FR, GR, PO |
| | Mendocino Coast | Noyo River | 111320 | 30 | 41 | 41 | FR, UR, NW |
| | Mendocino Coast | Big River | 111330 | 35 | 35 | 35 | FR, PO, WL |
| | Mendocino Coast | Albion River | 111340 | 13 | 13 | 13 | FR, UR, NW |
| | Mendocino Coast | Navarro River | 111350 | 36 | 36 | 36 | AG, WI, RB, GR |
| | Mendocino Coast | Greenwood Creek | 111361 | | | | |
| | Mendocino Coast | Elk Creek | 111362 | | | | |
| | Mendocino Coast | Alder Creek | 111363 | | | | |
| | Mendocino Coast | Brush Creek | 111364 | | | | |
| | Mendocino Coast | Garcia River | 111370 | 24 | 26 | 26 | FR, AG, WI |
| | Mendocino Coast | North Fork Gualala River | 111381 | | | | |

| Map Code | Basin | Watershed | HSA Unit | Spawning/Rearing PCEs (mi)** | Rearing/Migration PCEs (mi)** | Presence/Migration Only PCEs (mi)** | Management Activities*** |
|----------|-----------------|-----------------|----------|------------------------------|-------------------------------|-------------------------------------|--------------------------|
| | Mendocino Coast | Rockpile Creek | 111382 | | | | |
| | Mendocino Coast | Buckeye Creek | 111383 | | | | |
| | Mendocino Coast | Wheatfield Fork | 111384 | | | | |
| | Mendocino Coast | Gualala | 111385 | | | | |
| | Mendocino Coast | Russian Gulch | 111390 | | | | |
| | Russian River | Guerneville | 111411 | 36 | 43 | 43 | UR, FR, NW |
| | Russian River | Austin Creek | 111412 | 3 | 3 | 3 | UR, GR, NW |
| | Russian River | Laguna | 111421 | | | | |
| | Russian River | Santa Rosa | 111422 | 3 | 10 | 10 | UR, AG, NW |
| | Russian River | Mark West | 111423 | 0 | 4 | 4 | UR, FC, AG, WI |
| | Russian River | Warm Springs | 111424 | 14 | 14 | 14 | AG, UR, WI |
| | Russian River | Geyserville | 111425 | 36 | 36 | 36 | AG, GM, GR, UR |
| | Russian River | Ukiah | 111426 | | | | |
| | Russian River | Coyote Valley | 111431 | 36 | 36 | 36 | UR, AG, FC, GM, NH |
| | Russian River | Forsythe Creek | 111433 | 15 | 15 | 15 | AG, FR, GR |

*Total Stream Miles calculated from blue-line streams represented on 1:100,000 USGS Topographic Maps

**Overlap of stream miles may occur between the three habitat types.

***Management Activities Codes:

AG - Agriculture

CM - Channel Modification

ES - Exotic / Invasive Species

FC - Flood Control Channel

FR - Forestry

GM - Sand and Gravel Mining

GR - Grazing

HD - Hydroelectric Dam

NH - Non-hydro Dam

NW - Non-agriculture Withdrawals / Impoundments

PO - Poaching

RB - Road Building / Maintenance

SP Septic System Failure / Containment

TR - River, Estuary, Ocean Traffic

UR - Urbanization

WI - Agriculture Withdrawals / Impoundments

WL - Wetland Loss / Removal

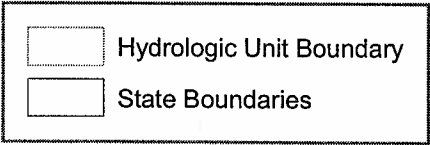
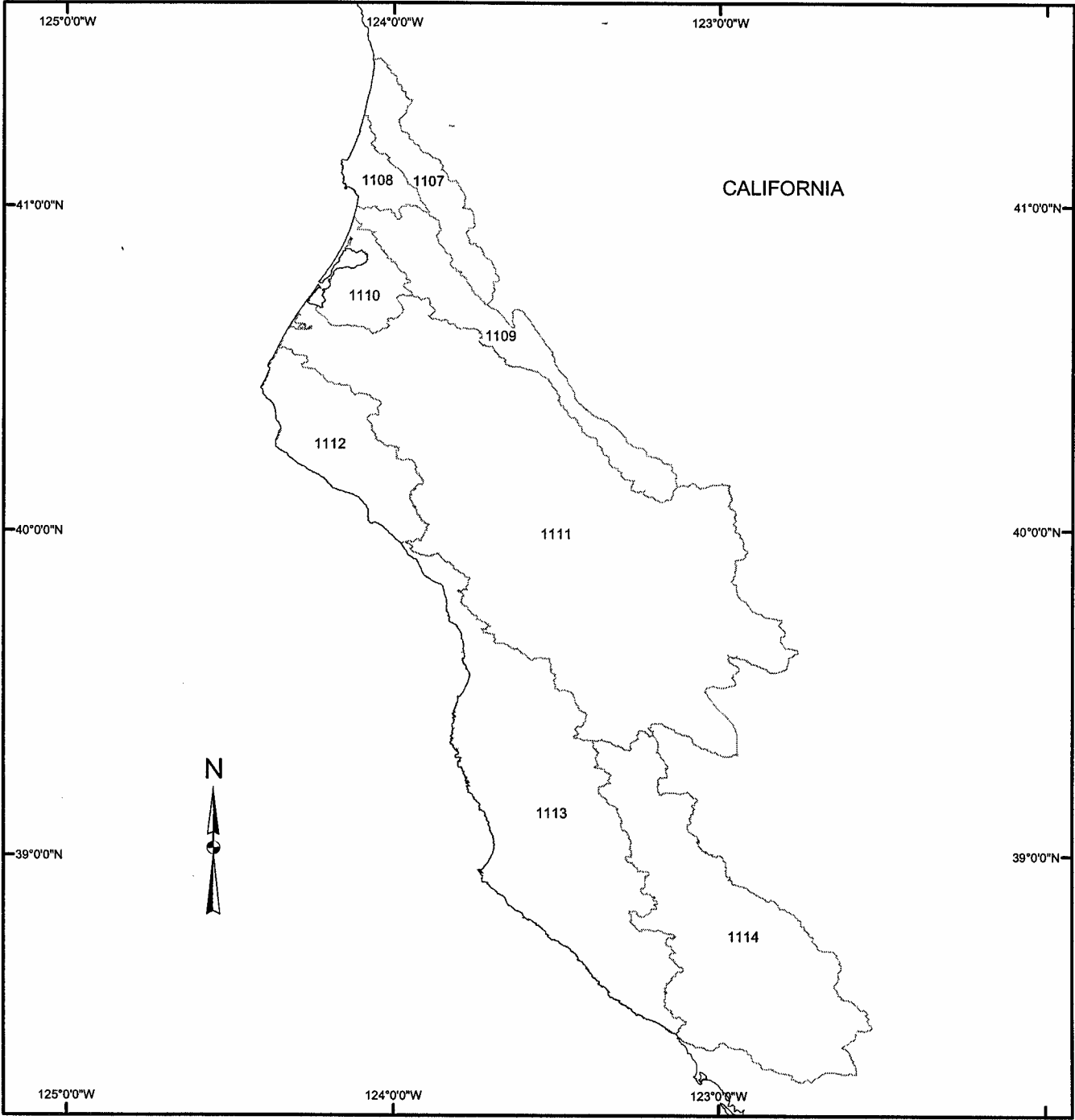
Table A2. Summary of Preliminary Scores and Overall Rankings of Conservation Values for Critical Habitat for HSA watersheds occupied by the California Coastal Chinook ESU

| Map Code | Basin | Watershed | Calwater Unit | Total Score (0-18) | Comments / Other Considerations | Preliminary Conservation Value |
|----------|-----------------|--------------------------------|---------------|--------------------|---------------------------------|--------------------------------|
| | Redwood Creek | Orick | 110710 | 14 | | High |
| | Redwood Creek | Beaver | 110720 | 13 | | High |
| | Redwood Creek | Lake Prairie | 110730 | 11 | | Medium |
| | Trinidad | Big Lagoon | 110810 | 9 | | Low |
| | Trinidad | Little River-Albion_Big Salmon | 110820 | 13 | | High |
| | Mad River | Blue Lake | 110910 | 14 | | High |
| | Mad River | North Fork Mad River | 110920 | 12 | | High |
| | Mad River | Butler Valley | 110930 | 11 | | High |
| | Mad River | Ruth | 110940 | 0 | | Not Occupied |
| | Eureka Plain | Eureka Plain | 111000 | 13 | | High |
| | Eel River | Ferndale | 111111 | 11 | | Medium |
| | Eel River | Scotia | 111112 | 11 | | Medium |
| | Eel River | Larabee Creek | 111113 | 10 | | Medium |
| | Eel River | Hydesville | 111121 | 14 | | High |
| | Eel River | Bridgeville | 111122 | 9 | | Low |
| | Eel River | Yager Creke | 111123 | 12 | | High |
| | Eel River | Weott | 111131 | 13 | | High |
| | Eel River | Benbow | 111132 | 14 | | High |
| | Eel River | Laytonville | 111133 | 14 | | High |
| | Eel River | Sequoia | 111141 | 13 | | High |
| | Eel River | Spy Rock | 111142 | 12 | | High |
| | Eel River | North Fork Eel River | 111150 | 13 | | High |
| | Eel River | Outlet Creek | 111161 | 15 | | High |
| | Eel River | Tomki Creek | 111162 | 13 | | High |
| | Eel River | Lake Pillsbury | 111163 | 12 | | High |
| | Eel River | Eden Valley | 111171 | 10 | | Medium |
| | Eel River | Round Valley | 111172 | 12 | | High |
| | Eel River | Black Butte River | 111173 | 9 | | Low |
| | Eel River | Wilderness | 111174 | 8 | | Low |
| | Cape Mendocino | Oil Creek | 111210 | 0 | | Not Occupied |
| | Cape Mendocino | Capetown | 111220 | 12 | | High |
| | Cape Mendocino | Mattole River | 111230 | 15 | | High |
| | Mendocino Coast | Usal Creek | 111311 | 0 | | Not Occupied |
| | Mendocino Coast | Wages Creek | 111312 | 7 | | Low |
| | Mendocino Coast | Ten Mile River | 111313 | 13 | | High |
| | Mendocino Coast | Noyo River | 111320 | 11 | | Medium |
| | Mendocino Coast | Big River | 111330 | 11 | | Medium |

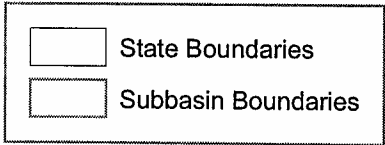
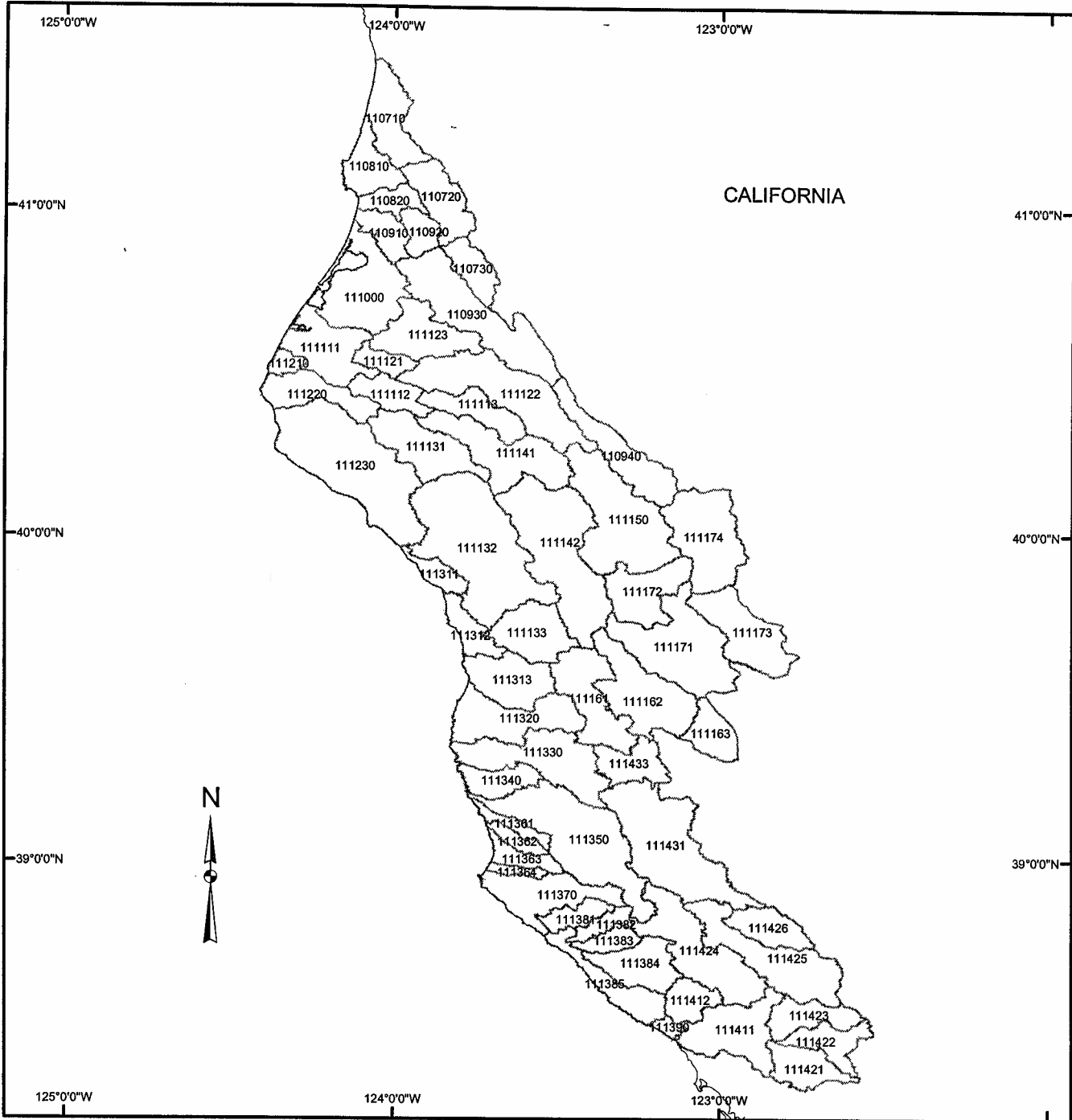
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|--|-----------------|--------------------------|--------|----|---|--------------|
| | Mendocino Coast | Albion River | 111340 | 10 | | Medium |
| | Mendocino Coast | Navarro River | 111350 | 7 | | Low |
| | Mendocino Coast | Greenwood Creek | 111361 | 0 | - | Not Occupied |
| | Mendocino Coast | Elk Creek | 111362 | 0 | | Not Occupied |
| | Mendocino Coast | Alder Creek | 111363 | 0 | | Not Occupied |
| | Mendocino Coast | Brush Creek | 111364 | 0 | | Not Occupied |
| | Mendocino Coast | Garcia River | 111370 | 15 | | High |
| | Mendocino Coast | North Fork Gualala River | 111381 | 0 | | Not Occupied |
| | Mendocino Coast | Rockpile Creek | 111382 | 0 | | Not Occupied |
| | Mendocino Coast | Buckeye Creek | 111383 | 0 | | Not Occupied |
| | Mendocino Coast | Wheatfield Fork | 111384 | 0 | | Not Occupied |
| | Mendocino Coast | Gualala | 111385 | 0 | | Not Occupied |
| | Mendocino Coast | Russian Gulch | 111390 | 0 | | Not Occupied |
| | Russian River | Guerneville | 111411 | 12 | | High |
| | Russian River | Austin Creek | 111412 | 4 | | Low |
| | Russian River | Laguna | 111421 | 0 | | Not Occupied |
| | Russian River | Santa Rosa | 111422 | 9 | | Low |
| | Russian River | Mark West | 111423 | 11 | | Medium |
| | Russian River | Warm Springs | 111424 | 12 | | High |
| | Russian River | Geyserville | 111425 | 12 | | High |
| | Russian River | Ukiah | 111426 | 0 | | Not Occupied |
| | Russian River | Coyote Valley | 111431 | 13 | | High |
| | Russian River | Forsythe Creek | 111433 | 11 | | Medium |
| | Outside ESU | Lake Pillsbury | 111163 | | | High |

Figures A1 and A2: CALWATER Hydrologic Units and Hydrologic Subareas within the range of the California Coastal chinook salmon ESU

Map of the California Coastal O. tshawytscha ESU



Map of the California Coastal *O. tshawytscha* ESU



Maps A1 through A8: California Coast chinook ESU - Areas (Units) Under
Consideration for Critical Habitat Designation

A1 - Unit 1107 (Redwood Creek)

A2 - Unit 1108 (Trinidad)

A3 - Unit 1109 (Mad River)

A4 - Unit 1110 (Eureka Plain)

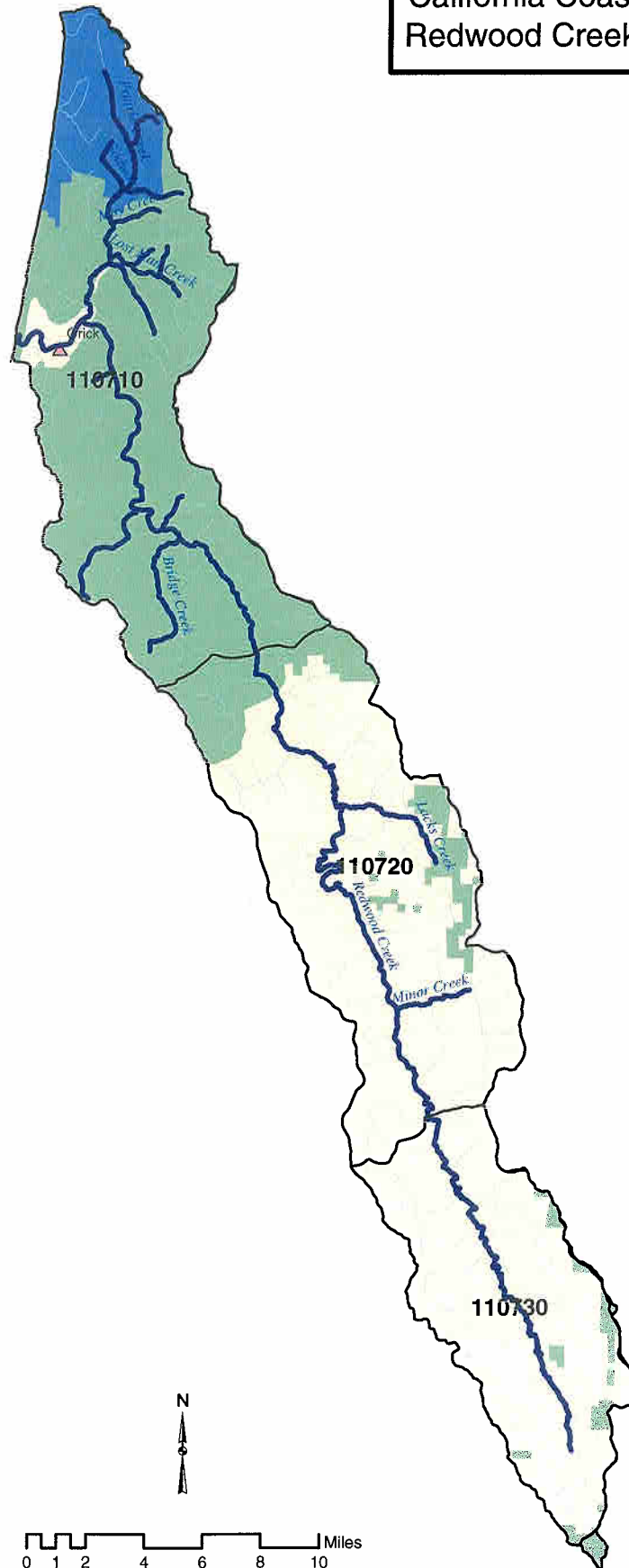
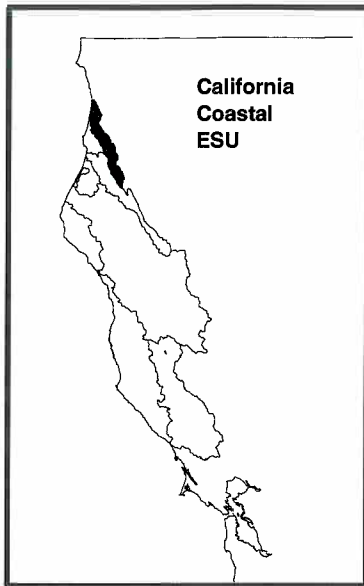
A5 - Unit 1111 (Eel River)

A6 - Unit 1112 (Cape Mendocino)

A7 - Unit 1113 (Mendocino Coast)

A8 - Unit 1114 (Russian River)

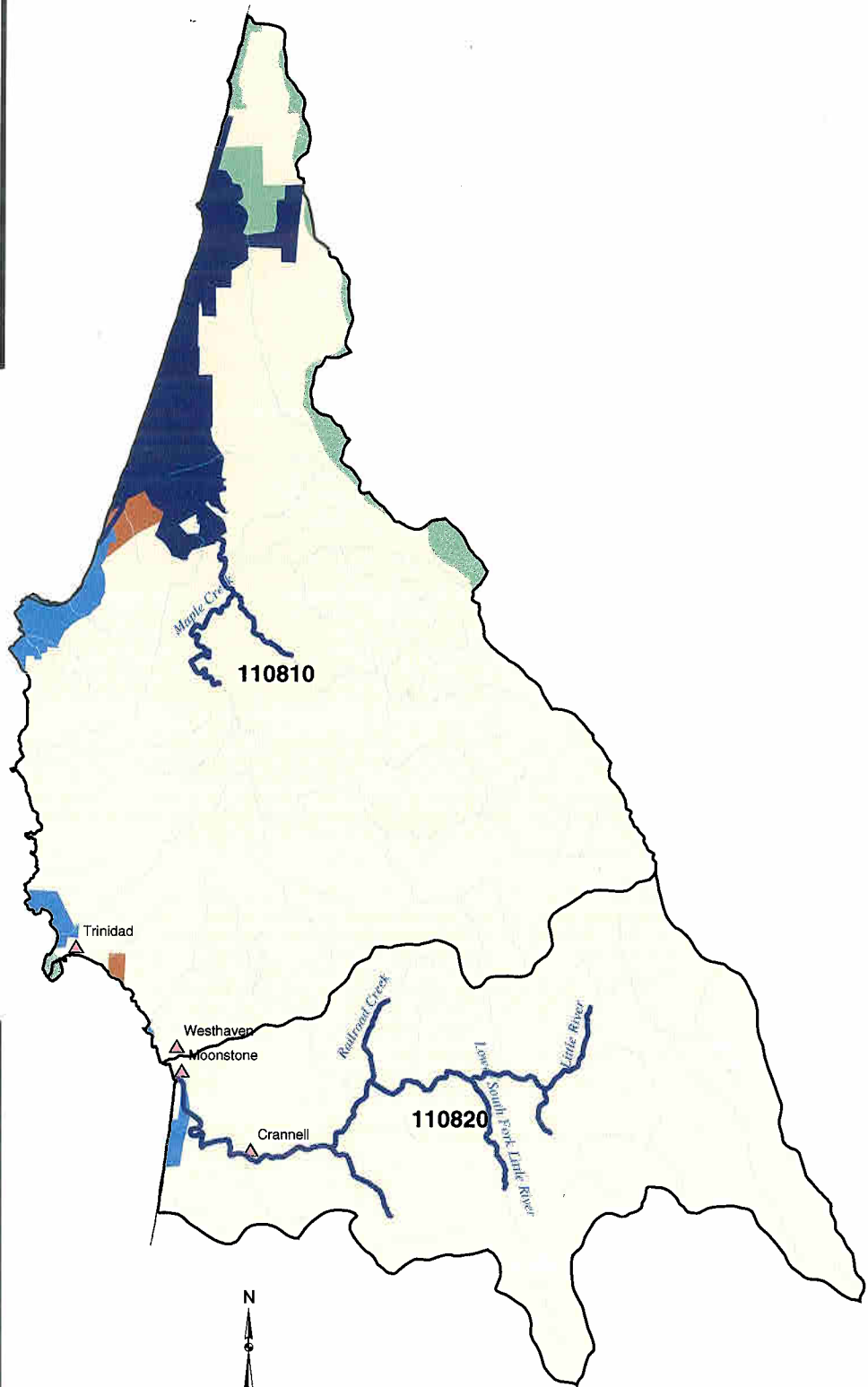
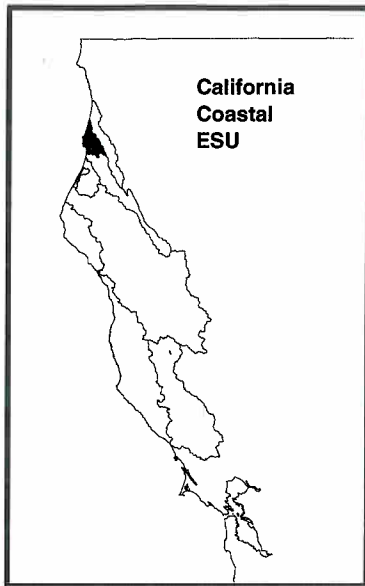
DRAFT
California Coastal Chinook
Redwood Creek HU (1107)



- Cities
 - Chinook Presence Streams
 - Hydrologic Unit Boundary
 - Land Ownership***
 - Tribal
 - Federal
 - State/Local
 - Private/Other
 - Water
- *Source: California Environmental Resources Evaluation System (CERES), 1999

Note: This map is a DRAFT product for general reference only

DRAFT
California Coastal Chinook
Trinidad HU (1108)



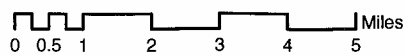
▲ Cities
 ~ Chinook Presence
 ~ Streams
 □ Hydrologic Unit Boundary

Land Ownership*

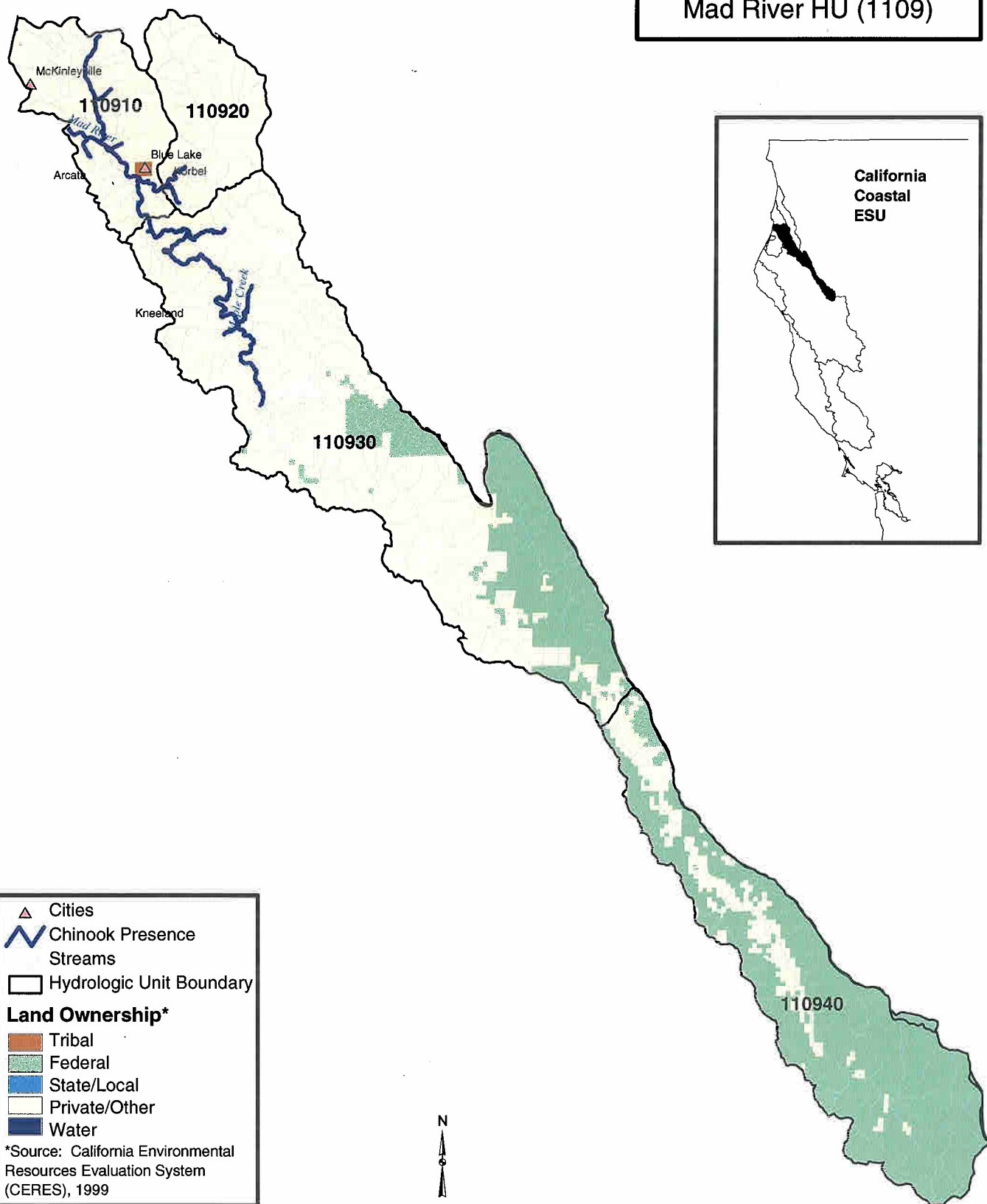
■ Tribal
 ■ Federal
 ■ State/Local
 ■ Private/Other
 ■ Water

*Source: California Environmental Resources Evaluation System (CERES), 1999

Note: This map is a DRAFT product for general reference only



DRAFT
California Coastal Chinook
Mad River HU (1109)



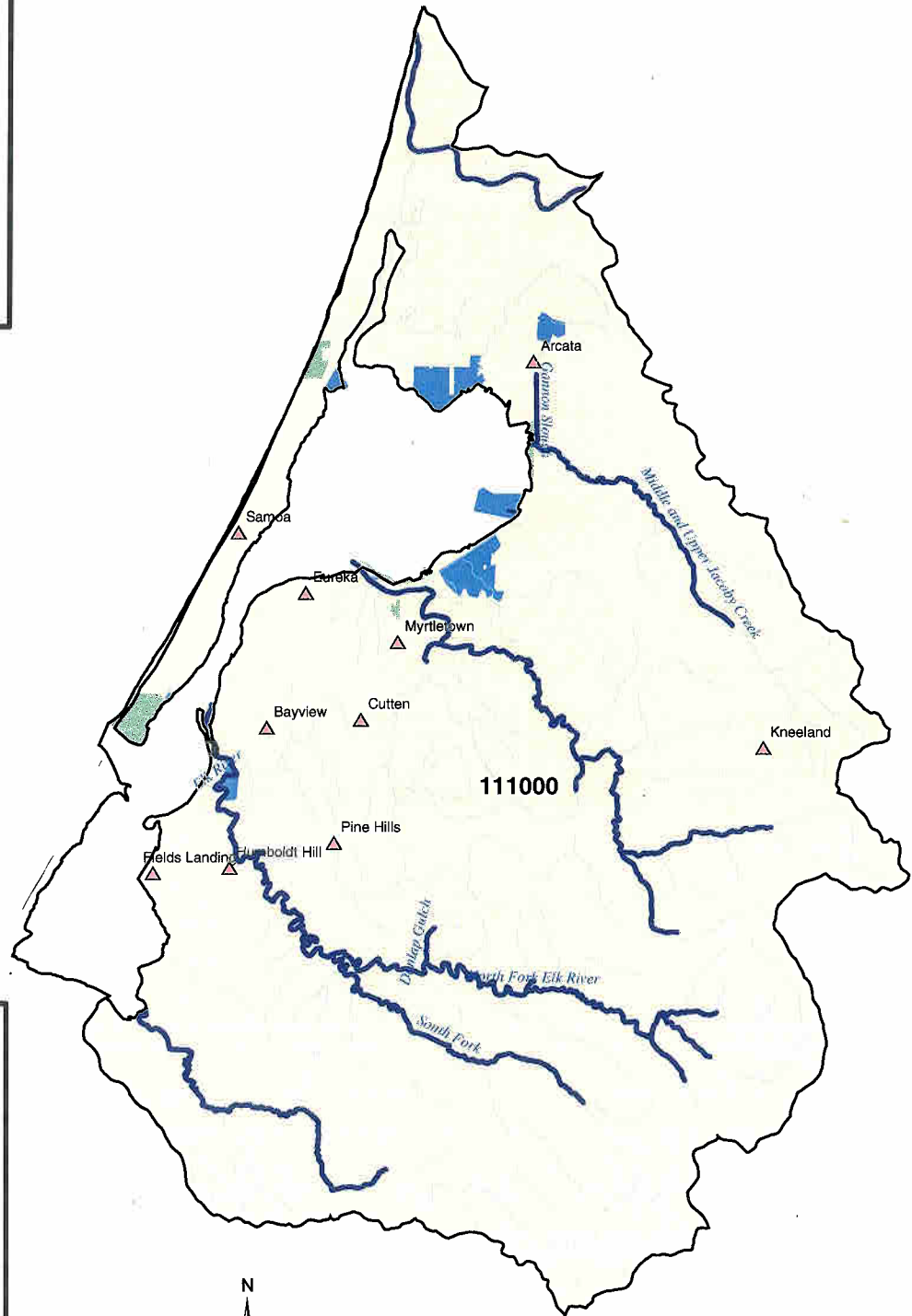
- △ Cities
 - ~ Chinook Presence Streams
 - Hydrologic Unit Boundary
 - Land Ownership***
 - Tribal
 - Federal
 - State/Local
 - Private/Other
 - Water
- *Source: California Environmental Resources Evaluation System (CERES), 1999

Note: This map is a DRAFT product for general reference only

0 1 2 4 6 8 10 Miles

California
Coastal
ESU

DRAFT
California Coastal Chinook
Eureka Plain HU (1110)



- △ Cities
- Chinook Presence Streams
- Hydrologic Unit Boundary

Land Ownership*

- Tribal
- Federal
- State/Local
- Private/Other
- Water

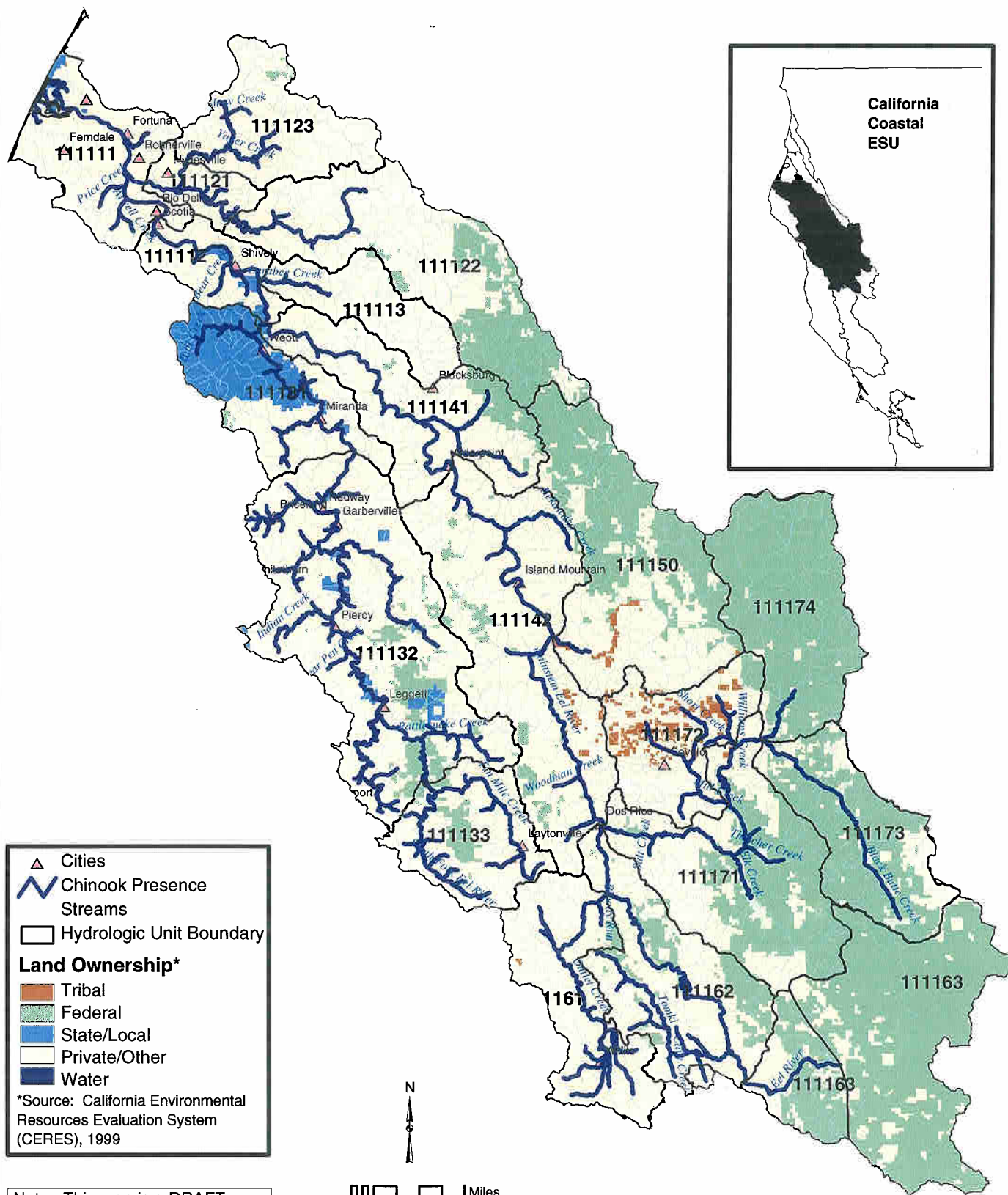
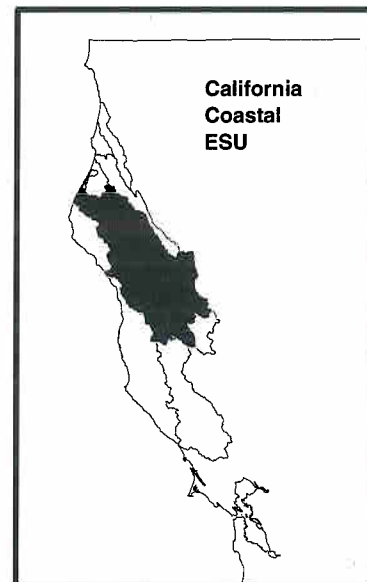
*Source: California Environmental
Resources Evaluation System
(CERES), 1999



0 0.5 1 2 3 4 5 Miles

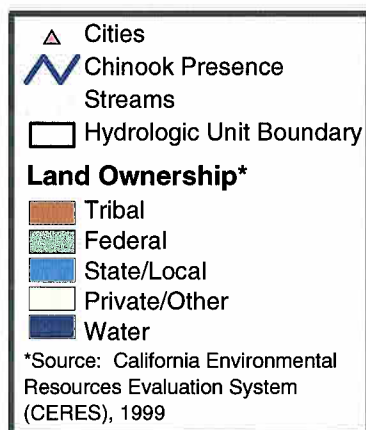
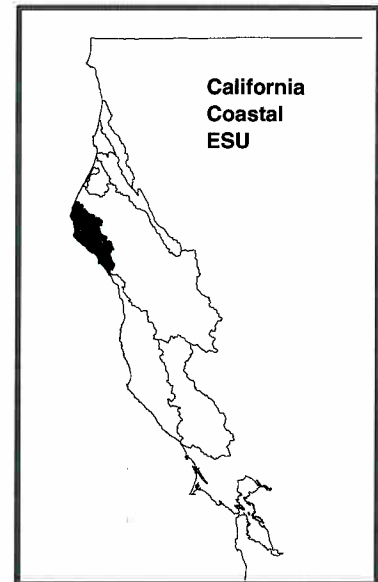
Note: This map is a DRAFT
product for general reference only

DRAFT
California Coastal Chinook
Eel River HU (1111)

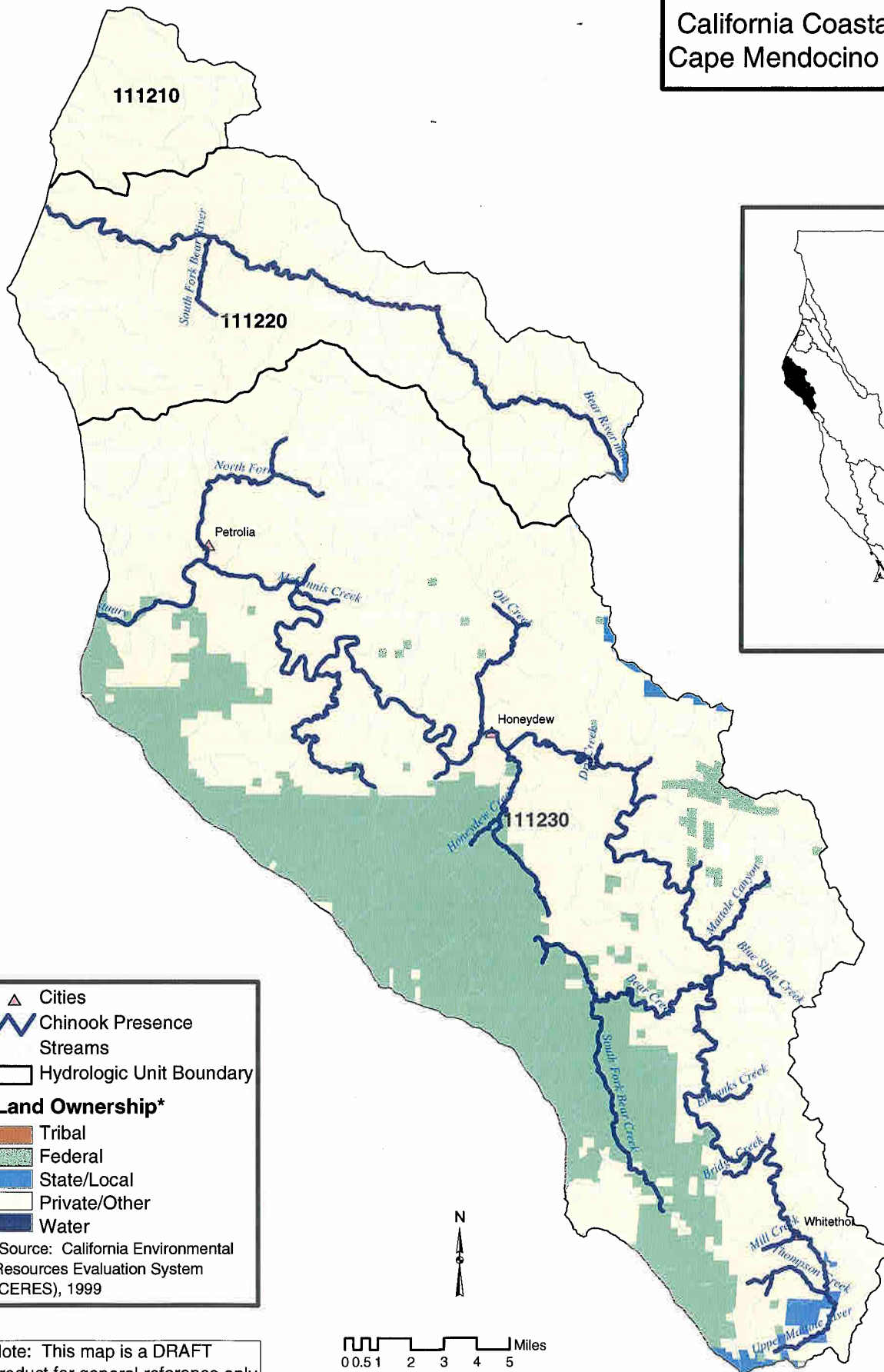
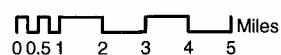


Note: This map is a DRAFT product for general reference only

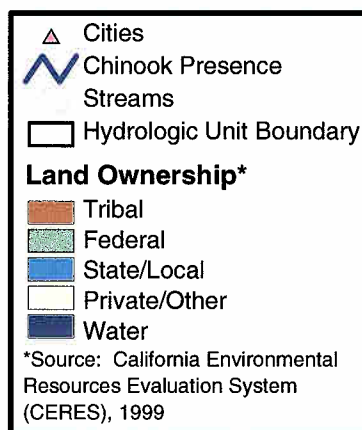
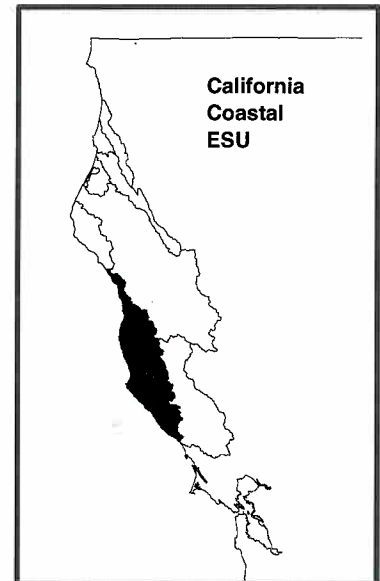
DRAFT
California Coastal Chinook
Cape Mendocino HU (1112)



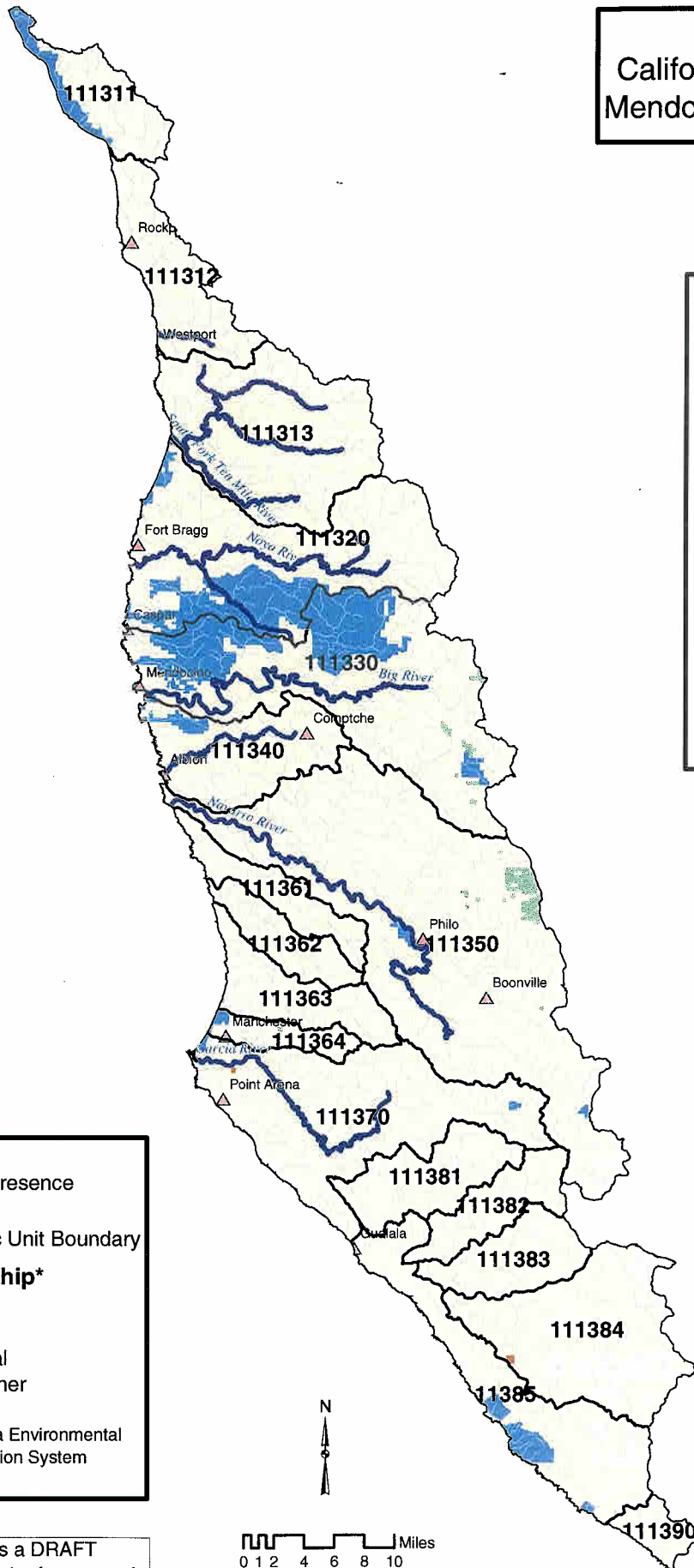
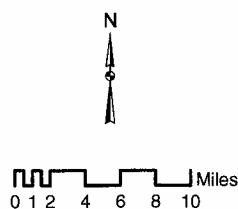
Note: This map is a DRAFT product for general reference only



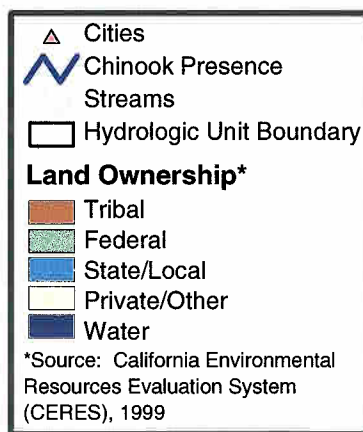
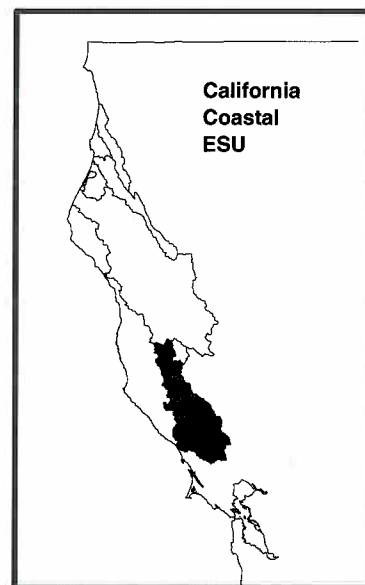
DRAFT
California Coastal Chinook
Mendocino Coast HU (1113)



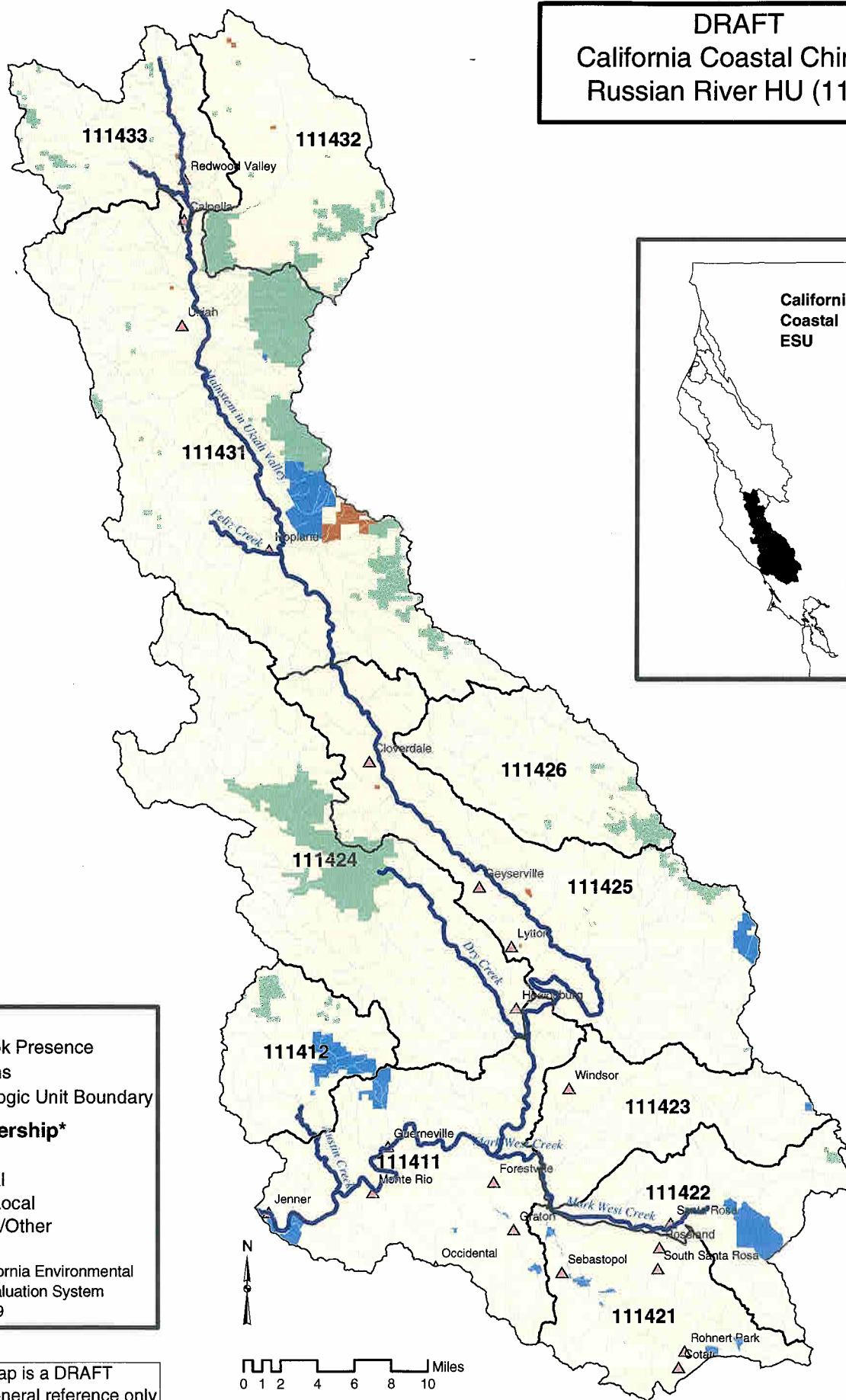
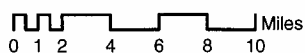
Note: This map is a DRAFT product for general reference only



DRAFT
California Coastal Chinook
Russian River HU (1114)



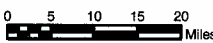
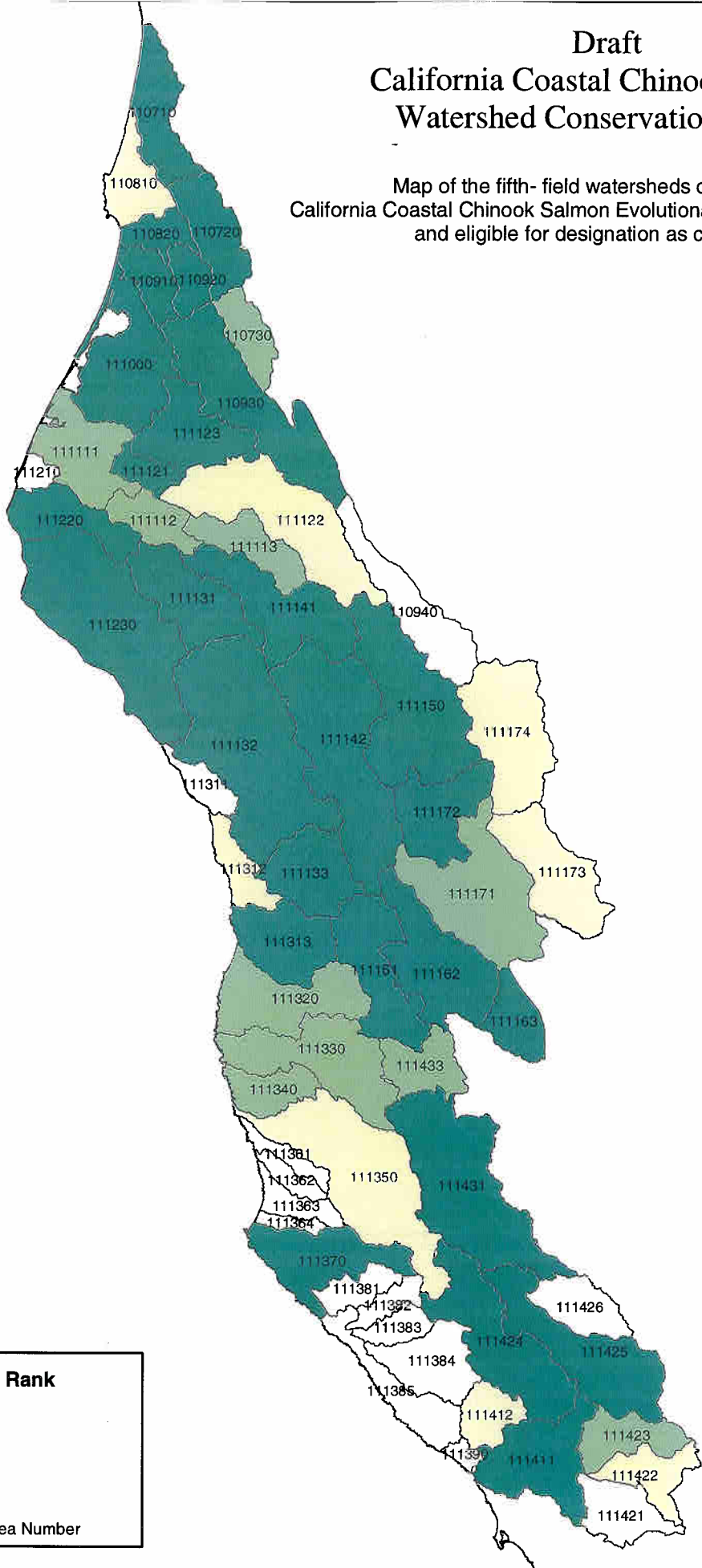
Note: This map is a DRAFT product for general reference only



Map A9. Preliminary CHART Conservation Value Ratings for CALWATER HSA
Watersheds occupied by the California Coast chinook ESU

Draft
California Coastal Chinook Salmon
Watershed Conservation Rating

Map of the fifth- field watersheds occupied by the
California Coastal Chinook Salmon Evolutionarily Significant Unit (ESU)
and eligible for designation as critical habitat.



Hydrologic Sub- Area Rank

- High
- Medium
- Low
- Not Ranked

110701 Hydrologic Sub-Area Number